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THOMAS H. McCOLLIN, Managing Editor.

MECHANICAL MEANS FOR OBTAINING INCREASED BRILLIANCY OF IMAGE.

IT not unfrequently happens that, even with plates of excellent quality and chemicals of the best brands, the results obtained leave much that is wanting in point of brilliancy.

It need hardly be said that while brilliancy constitutes the chief charm of well-made photographs of almost all classes, there are certain kinds, on the other hand, whose beauty depends on the absence of anything like brilliant tone-contrast. With these we need not trouble ourselves at present.

Brilliancy of image in a photograph largely depends upon the quality of the image as it is thrown upon the ground glass by the lens; and if we come to analyze the matter, we might further say that it consists in a perfect differentiation of the numerous tones and half-tones that combine to make up the image. For example, let us suppose that a certain portion of the picture was the white wall of a house on which a faint shadow was thrown from some projecting portion of the building; provided that the image in the camera were pure, the negative would show both the white wall and the shaded part distinctly, but if diffused light were present even in small amount, the tones would not be preserved in the negative. This would be equally true for the shadows and deeper shades. Indeed the darker parts of the picture are those that would most suffer from the presence of any diffused light in the camera.

This diffused light in the camera may get there either by being transmitted directly through the lens when directed towards some very bright object, such as a large stretch of sky, or by being reflected from some part of the lens or interior of the camera. A good means of determining whether things are in order would be to point the camera at some very dark object against the light, such, for instance, as a group of evergreen trees with the principal light in the sky directly behind or above them. By examining the image on the ground glass closely, it could easily be determined whether any haziness in the dark shadows of the trees were caused by reflection from the dry part of the apparatus, or by direct light from the sky.

The importance of having every part of the interior of the apparatus free from reflecting surfaces can not be over-estimated, particularly for out-door photography of

NEGATIVE BY THOS. H. McCOLLIN.

all kinds. Some of the cheaper outfits are turned out by the manufacturers in a very crude condition in this respect, the interior of the camera being rather stained than blackened, and the metal work on the inside of the lens left without the slightest attempt at removing the polished surfaces, which reflect light almost like a mirror. To get rid of these apply a mixture of spirit varnish and lampblack with a brush. If the edge of the glass in the lens is seen to reflect light where it fits against the wall of the brass cell, take it out and apply the black varnish over the ground surface of the edge, carrying it slightly up on the face of the lens, so as to make a ring of the black material and cut off reflections.

When making groups or portraits out of doors, annoying cross-lights and reflections may often be gotten rid of by the old plan of adapting a cone-shaped tube or hood, lined with black velvet, to the front of the lens. Such a tube may be twelve inches or more in length, and its front opening should be made small enough to slightly cut off the field of the lens at the four corners of the picture. A series of large diaphragms made of cardboard, with black velveteen glued on one side, could easily be arranged so as to fit the projecting hood, and thus suit different sizes and characters of pictures.

In some kinds of work a large diaphragm of this kind is absolutely indispensable. If a "cone-front" is used on the camera, there will often be reflections from its sides that no blackening, no matter how perfect, will remove. A large black diaphragm, as described, set inside the cone near its rear end, will cut off the stray light, and enable the operator to obtain brilliant results without difficulty. In slide-making with the camera, this idea will often prove very useful; the camera being of necessity directed towards a strong light. Now, we frequently see directions given for slide-making in which the importance of keeping the space between the lens and the negative darkened seems to be quite overlooked. For instance, it is often said that good slides may be made by simply setting the negative up in a window and bringing the camera to a suitable distance. Here it will be seen at once that any cross-reflections or stray light have the fullest opportunity of entering the lens and fogging the image. But if a cardboard hood, such as we have already spoken of, be adapted between the lens and the negative, the clearness of the image, both as seen on the ground glass and on the developed negative, will be very marked. Not that we recommend such an awkward makeshift as this for the practical work of slide-making, but we give the example to show how carefully all light except that which is immediately concerned in the formation of the picture must be excluded from the sensitive film.

Among the numerous parallelisms that have been drawn between the human eye and the photographic camera, the one of shielding the lens from glare and stray reflections just as the eye is sometimes by holding the hand above or around it, should not be forgotten. Sky-shades and dark hoods are very useful adjuncts to any lens, and form the analogue to the hand employed in shielding the eye. The lens, in fact, should be treated like the eye in all these respects. Due care bestowed upon this matter, and perfect freedom from reflecting surfaces about the lens-mounting and camera, will go far toward the obtaining of vigorous and brilliant chemical effects.

ELLERSLIE WALLACE.

THE SEARCH POWER OF THE CAMERA.

THE faculty of the modern lens and sensitive dry plate to bring to light matters not susceptible of discernment to the human eye has on numerous occasions been the subject of notices and comments in the photographic press, a remarkable instance being a case of measles, which showed in a negative, while no outward evidence appeared on the subject until three days after the picture was taken. Several instances of the detective properties of modern photography have lately come under the personal notice of the writer. The first example occurred in photographing a church,—an old colonial landmark,—which when built was of rubble masonry, with white pointed joints. High up in the gable was placed the date-stone. Some sixty years ago the building was remodelled, and at the same time was treated to a coating of pebble-dash or rough coating, thereby completely obliterating the stone with its inscription,—its very existence had in the course of years been forgotten, and had escaped even the memory of the oldest inhabitant, although on several occasions sought for by historical students, not even a tradition could be found to give the position of the old stone. In making a picture of the building, to the surprise of the writer, the negative plainly showed the outline of the old stone, and the fact that it still existed back of the covering of mortar.

The second example occurred in photographing the portrait of Queen Christina of Sweden, now in the hall of the Historical Society of Pennsylvania. Two exposures were made, the plates used being the orthochromatic dry plate of commerce. Different lenses were used for each exposure, viz., Wray (London), Series D, and a Rapid Euryscope. After developing the plates, which were both a success, brush marks appeared over the head of the portrait, which were not noticeable on the painting, and on close examination of the negative the marks showed plainly the outlines of a crown or coronet. This caused a careful scrutiny of the painting and its history to be made.

On investigation it proved that the painting in question was a copy from the original painting by David Beek, a pupil of Vandyke, in the National Museum at Stockholm, by Mdle. Elise Arnberg of Stockholm. This portrait represents the Queen crowned, as did the faithful copy. However, when, during the Centennial year, the painting was acquired by representatives of the Historical Society, for some reason not known at the present day the crown was carefully painted out, and that part of the background made to correspond with the remainder, leaving the portrait of the Queen so familiar to all who attend the meetings of that Society.

The third experience was from a photographic standpoint even more curious. An old road map of Chester county had been loaned to the writer for the purpose of making a photographic copy. This looked easy; no difficulty was expected; the township lines were colored, it is true, but in light tints which offered no obstruction, while the lines and lettering, which were steel or copperplate, were more than usually sharp and distinct to the eye. The subject was put up in front of the camera in the usual manner, and the exposure made, the time, stop, and plate (B 16) being the same as were always used on similar work, and from the familiarity and experience with like subjects, it was not supposed for a moment that more than one trial was

necessary to obtain a perfect copy. On developing the plate, however, the whole thing came out a blur,—not a sharp line or letter was to be seen on the plate. The only explanation of this was that the camera must have moved; but on examination the subject was found to be perfectly sharp on the ground glass. To make doubly sure a new focus was taken, with a magnifier to get the maximum of sharpness; the second exposure was then made, giving double the time,—result, same as before. The camera holder, lens, and all were again examined. A third exposure, giving only one half the time of the first plate, was then made with like result, every letter and line looking blurred. These three consecutive failures were something so unusual that a determined effort was now made to discover the cause. Another camera was taken, carefully examined, set up, and focussed with a glass to get extreme sharpness. Trials were then made with orthochromatic plates, with no better results. Notwithstanding the fact that pyro, eikonogen and oxalate developers were all tried in succession, all the plates were thin, and without a sharp line or letter. On some plates hardly a sign was to be seen of the black print on the map. A yellow color screen was also tried without result. Here, then, was a conundrum which we could not understand. So the map was taken to a professional (wet plate) operator, who makes a special business of copying, with the request to make a copy. "Nothing easier," he said; "Walk up stairs, and we will have it for you while you wait." However, after three trials with no better result than our own, he gave it up. He could not account for the matter any more than we could; but there they were, not a sharp letter or line on any of the three. We do not believe in witchcraft, but it certainly seemed as if that old map was bewitched.

We again tried it with orthochromatic dry plates, with and without color screen; result, the same miserable failure. It then occurred to the experimenter to examine the map carefully with a powerful magnifying glass without, however, detecting anything about the map to solve the mystery. In pondering over the matter, it occurred to us that the varnish might have something to do with our failures. So a corner of the map was treated to a dose of methylated spirits, applied with a wad of absorbent cotton. This seemed to dim the printed lines and make them much fainter. However, the subject was again put before the camera, with the same result, except as to the corner which had been treated to the methylated spirits. This was clear and sharp. Here was a solution to the mystery. The whole map was now similarly treated, and on the next day an attempt was made to get a serviceable copy, with a favorable result. The explanation of all the trouble was that the varnish had in some unaccountable manner acted on the black ink as it were, and the edges of the lines had run or spread. This fact, however, was not perceptible to the human eye, even with the use of a powerful magnifying glass, yet so great was the sensibility, perceptibility, or search-power of the camera that it caused the (for the time) unaccountable failures and vexations.

J. F. SACHSE.

Berwyn, March 9, 1890.

IT is whispered that men will carry parasols during the coming season. It is ordinarily difficult to fathom the decrees of fashions, but the reason for this particular decree is not hard to seek. It is to furnish men with a protection from the amateur photographer with his snap camera.

A REMARKABLE PHOTOGRAPHIC ROBBERY.

WHEN the late Empress Augusta, of Germany, was lying in state in the "Schloss Kapelle," in Berlin, Professor Shirm, the expert "Blitz" photographer, was commissioned by the Grand Duchess of Baden, the only daughter of the late Empress, to take a picture of the body at night with the aid of Blitz-Pulver, for the exclusive use of the immediate members of the imperial family. In this picture but a single living person was to appear, viz., the Grand Duchess standing at the head of the catafalque, mourning for the dead. Professionally, Prof. Shirm found himself confronted by a problem of the greatest difficulty, from the fact that all of the surroundings and drapings were of the most sombre character, as were also the costume of the Grand Duchess; the palm branches with which the catafalque was decorated were of a dull green, with nothing to give detail or relief, while in sharp contrast were the ashy features of the living and the dead, which, together with the snow-white of the surrounding tapers, pillows, ribbons, etc., all tended to augment the difficulties of the photographer.

Extensive preparations had been made to obtain a successful negative. Twelve stands were erected in various parts of the chapel, on which flash-lamps were arranged to give the proper illumination; the plates were extra large, 26x36 cm. For obvious reasons, the greatest secresy was observed throughout the preparations. At last, when the appointed time had arrived, and all was in readiness, the duchess was posed beside the catafalque, the bulb pressed, the Blitz flashed, and the exposure was an accomplished fact. Now comes the curious part of the matter. By some means an enterprising photographer—whether amateur or professional does not appear—got wind of what it was intended to do, and by some means got access to the chapel with his camera, and there concealed himself. While Prof. Shirm was making his preparations, the intruder quietly set up his camera in his dark corner, and focussed on the group,—of course from a different point of view from Prof. Shirm. When the magnesium flashed brightly among the sombre surroundings, it impressed the scene on two sensitive plates. The intruder got out of the chapel as secretly as he had entered. The presence of a stranger was not even suspected until Berlin and other cities in Germany were flooded with prints from the surreptitious plate. These were at once suppressed by the police, and their sale in the future interdicted; so far as our information goes, however, without detecting the intruder or capturing the stolen plate.

J. F. S.

A DOWN east editor offered a prize of $50 and a year's subscription for the best-written proposal of marriage from a young lady to him. He picked out a nicely written, elegantly composed epistle from a beautiful and wealthy widow, answered it, accepting the proposal, and threatening her with a breach of promise suit, and finally scared her into marrying him.—*Ex.* This lady might have escaped this result, if she had followed the example of an exceedingly cautious young man who, acting under legal advice, signed all his letters to his fianceé, "Yours without prejudice."

AMATEUR EXPERIENCES.—II.

EDITOR AMERICAN JOURNAL:

Again I must protest. In the March JOURNAL you published an article entitled "A Seasonable Suggestion." I read it with pleasure, and was struck with its feasibility, and determined to act upon it at once. The idea of a series of prints taken of historic or noted trees struck me as especially opportune. I knew just where to find several such relics of the past, one in particular, a noble, wide-spreading oak, with which there was connected some revolutionary history, in addition to the gruesome legends of a mysterious murder which was said to have taken place under the shadow of the wide-spread branches. So I concluded to start on this tree. My outfit was overhauled and examined, plate-holders loaded up, and hopes expressed for a clear, fine day, without any high wind. I did not have long to wait; the opportunity arrived; I trudged along the soft country road for more than a mile from the station. There stood the tree in the centre of a field of emerald green. It was a beautiful subject, as it stood there with leafless branches outlined against the cloudless sky; but thereby hangs a sorrowful tale. But, not to anticipate, I got over the fence and set up my camera. After I got my distance, I took my plumb-line, and drove a piece of broom-stick in the ground to mark the spot, just as you had suggested. The image was sharp on the ground glass, and, as I was reaching for the plate-holder, I saw two agriculturists approaching rapidly towards where I was; one was old, the other young,—as I afterwards found out, they were father and son,—and both were reinforced with a fork-handle. However, thinking they were attracted by curiosity, I felt no misgivings, but went on to adjust my holder; but that was where I made a mistake. The elder of the pair, one of the farmer class who is supposed to have a whetstone back of his ear since the last harvest, opened out: "Say, Mister, don't yer knoa better ner trespassin on a poor man's property, an a trampin down his wheat, an destryin his groin crap?" I answered that I was doing him no harm, that I was an active member of the Leopardville Camera Club, and was only taking a picture of his fine old tree; but he winked and laughed; then the young fellow laughed too; then he asked me "if I was a goin to pay for the damage I had done?" I asked him what he considered I had ruined. After studying a few minutes, he thought twenty dollars would just about pay him. I still took the whole thing for a huge joke, and offered the old fellow a quarter to cover the supposed damage. However, when the old fellow told me to "hurry up," I commenced to get mad, and we had a talking match then and there, which ended in the rustic's telling me to "come along to the Squire." Well, as I still did not expect anything serious, I bundled up my outfit, and as there being no alternative, started for the "Squire," under guard of the elder of my captors and his fork-handle; the younger man remained home, as he said to look after the wheat field.

I still could not bring my mind to the fact that this whole hippodrome was anything but a practical joke that some one had set up on me; still I commenced to have serious misgivings. When we arrived at the "Squire's" office, that high and mighty functionary was there to receive us, something like a spider in his web, ready to welcome any stray fly that should happen to get entangled in his net. Pho-

tographic stock did not boom very much just then either. There was nothing in the action or appearance of the "Squire" to inspire either hope or confidence. A mere glance at his heavy, bleared eye, and nose of a crimson, with a delicate tracery of blue veins, all indicative of the active "anti-prohibitionist," was enough to make the mercury fall still lower.

My companion and captor opened the circus with "Mornin, Squire."

"Wot's the truble, Mikel?" replied the Judge.

"Well, Jedge, I got a prisner here; kort square in the act, a trespassin, Jedge; a trampin down my eight aker lot of wheat, Jedge."

I now started to protest vigorously, and appealed to the common-sense of the Squire, but all the satisfaction vouchsafed me was the order to my captor to "fetch him in."

By this time the Squire had taken his place back of his rickety desk, and opened his book, while I was placed before him. By this time every idle man and boy in the village had crowded into the dingy office. The first thing the Squire did was to tell a boy to "go and fetch Bill." Well, "Bill" came,—he was the constable,—then the "hearing" commenced.

Squire.—"The prisner will oncover when he is in the presence ov the majesty of the lawr."

I lost no time in taking off my hat.

Squire.—"Mikel, kiss the book,—now make yer charge."

Mikel Rychaff, sw.—"Well, Jedge, ye see as I were a lookin out an seein my grain a groin, and I sees this ere willian a trespassin over the lot, an a puttin up a machine, and a spilin me hole crap,—don't expect as it will be worth a cuttin by harvest, Jedge."

Squire.—"Got trespass boards up?"

Mikel.—"I hev, Jedge."

Squire.—"Prisner, this is a serus matter. The farmin community shall an must be pertected from sech prowlin destroyers as you. Hev ye got anything ter say why the judgment of this court should not be pronounced agin ye?"

I now again protested that the thing certainly could be nothing but a joke, as no damage whatever had been done or intended, as the old man's son could testify to if he were here.

Squire.—"Prisner, if ye wants the other one sent fur, it is your right under the Constitution. 'Bill,' jest go an supenny 'Elige' to come over here and make his affadavy."

This proved to be another mistake which I made. In due time the constable returned with "Elige," and the latter corroborated his father in every particular. At this point the Squire gave judgment as follows:

"Prisner, ye have hed a fare trial, and is adjudged guilty, an the judgment of this court is that ye pay a fine of five dollars an the cost of persecution, an stan committed ontil they is paid, an the majesty of the lawr windicated."

To say that I was indignant and mad is drawing it too mild. I tried to reason with the mighty potentate, but all to no purpose. I explained to him that I was an active member of the Leopardville Camera Club, and had read an interesting article in the AMERICAN JOURNAL OF PHOTOGRAPHY, and was only acting on its

suggestions, but all to no purpose. I showed him the badge which I wear on my vest, and called his attention to our club button in the button-hole of the lappel of my coat; I even offered to take his picture, but all was in vain. While I talked and reasoned, he kept on scratching the paper with his pen, making up his bill of costs, as I found out to my sorrow. He turned the book for me to look at when he got through, and told me that the amount was $10.40 all told. Further, that if I didnt settle up pretty quick, he would have to make out a "mittimus" for "Bill" to take me to the county lock-up.

This matter had now become more than serious,—in fact, when I looked at the bill the mercury fell down below the spirit freezing point,—in fact, it was an extremely cold day for the "photographic studiosis." The account on his docket stated five dollars fine; costs, five dollars and forty cents; total, ten dollars and forty cents. I at once threatened to appeal to a higher court, but the only satisfaction I got was the information that there "wuz" no appeal, as the judgment was under $5.33, that his decision was under the act of 1810, and was final. So the best thing to do was to pay the fine and costs, gather up my traps, and start for the station, and leave the country that would permit so great an outrage upon a stranger who had done no harm. However, before I settled up, I demanded a transcript of his docket, which the "Jedge" made out after much difficulty. I send you the original document.

Now, Mr. Editor, have I any redress? Of course I shall bring the matter before the Leopardville Camera Club at our next conversational meeting, and we shall pass a unanimous vote of censure, but that will not give me back my money. What would you advise in the matter. There is balm for even the maiden's broken heart; but there seems to be no solace for the oppressed camera snap-shot. While there are special laws to protect the base ballist, the cycler, and other artists, nothing can be found on the statutes to shield the photographic student and amateur photographer from the unsentimental agriculturist and ignorant expounder of Coke and Blackstone.

Would it not be well for the various camera clubs to form a league and have special laws enacted for the encouragement and protection of their individual members when in pursuit of knowledge and beauty? We pause for a reply, and will be pleased to have an expression from members of other clubs upon this subject of confederation.

Communications sent in care of the AMERICAN JOURNAL OF PHOTOGRAPHY will be thankfully received by your suffering fellow-amateur,

J. FOCUS SNAPPSCHOTTE.

OUR ILLUSTRATION.

A COPY of an oil painting of the departure of Columbus from Palos, Spain, August 3, 1492, painted expressly for the Postmaster-General, and now on exhibition in one of the large mercantile establishments in the City of Brotherly Love. In view of the approaching quadri-centennial of the discovery of America it is peculiarly appropriate, and illustrates one of the most important epochs in the world's history. The negative was made by Mr. Thomas H. McCollin on a Carbutt orthochromatic plate, Ross lens, *f.* 20. The painting is in a dark position, and the cap was left off for full sixty minutes. The negative was developed with McCollin & Co.'s pyro-potash developer.

Crimanal Sute

County of _____ s.s
Personall apeared before me the Subscrivver one of the Justis of the Peas in and for the county of _____ mikel Richaf of sd township, beaw duly Swaren and on his soltum Oth suars that on this day the prisner at the bar did trespas on his weat field and did trample down his grain crop a tak in fotegraf as he ses the legal notis wich is put up on the plase notwithstandin an wen he orded him of the premis wich he refused to go

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THE
JOHN CRERAR

FOCUSSING IN LANDSCAPE PHOTOGRAPHY.

THE season is now fast approaching when landscape photography will engage the attention of all who are actively interested in the camera.

We scarcely feel it necessary to apologize for saying that well-worn as the subject is, we recur to it with pleasure, and feel that perhaps our pen is too apt to run away with us when we deal with this, the loveliest and most interesting portion of our art.

It is in every way gratifying to observe how extensively the art of Landscape Photography is now practiced, and how good are the results obtained. Those of us who have been identified with Photography since its earlier days, can remember when views of foreign countries were very hard to get, and correspondingly costly. We can remember when there were but few depots in this country for the sale of views taken in other lands, and when the interest manifested by the public in exhibitions of such views was but slight.

If there ever was a matter to which the time-honored saying, "Tempora mutantur, et nos mutamur in illis," could be properly applied, it is just this matter of the great increase of interest in Landscape Photography.

Our journals and text-books have pretty well exhausted themselves in instructions how to make landscapes. It must indeed be admitted that many kinds of the more commonplace country views are very easy to photograph; but if we come to deal with certain other kinds, difficulties of every sort will be encountered. It would lead us too far at present to enter into this in detail: we will confine ourselves to a portion of the matter that is not uninteresting. This is the sharpness of the picture, or, in stricter language, the definition given by the lens.

This question of optical definition includes those of focussing and of the selection of stops of the proper size. Now there has been much arguing whether the extreme distance should be as sharp as the foreground, and the idea has been advanced that inasmuch as the eye sees near objects more distinctly than distant ones, the latter should not be absolutely sharp in the photograph. This we think to be entirely a mistake. In the healthy human eye, everything that is seen at all is focussed upon the retina with an extreme of absolute sharpness, and the involuntary motions of the eyeball are so quick and finely adjusted that any object a little off the centre of sharpest definition, or in other words, those to which the attention is not directed with full force, are seen just as sharp, owing to the almost lightning-rapidity with which the eye follows the bent of the attention.

We may thus safely say that from the theoretical point of view all portions of the photographic landscape ought to be equally sharp, inasmuch as the original in nature is seen by the eye with uniform definition and distinctness.

A little practical experience with the camera, however, soon teaches us that absolute optical sharpness is never attainable, and that within certain limits our attempts to approach it are accompanied with the loss of many good qualities in the picture.

Depth of focus, or "reach," and good marginal definition, are only to be obtained by the use of stops comparatively small in size. Now, if for any reason a somewhat larger stop be inserted, we have the choice of throwing the sharpest definition far off into the distance, leaving the foreground somewhat badly defined, or of

focussing the foreground very sharp, and allowing the distance to remain misty and unsharp.

Which of these plans is to be followed?

We believe that this question can only be satisfactorily answered by saying that the general interest of the subject itself must determine it. The very terms "foreground" and "distance" are relative ones, of course. Now, supposing the camera to be placed before a fine group of trees on a lawn, with a bit of mountain distance showing on either side of the trees, it would manifestly be a foolish thing either to focus for the mountains as principal objects, and neglect the trees, or to stop down the lens to such a small opening that the exposure would have to be lengthened, and make it difficult to get the foliage motionless, in the hope of securing both distance and foreground equally sharp. The right plan would be to focus for the trees, and use a large enough stop to secure the leaves still, and give proper detail in the dark parts of the negative with whatever exposure were given; and not leave an undertimed transparent patch for the foliage, which prints perfectly black, as we see so often. If the distance were a little unsharp, it would not matter.

Let us now ask our readers to consider an example of the opposite character. Suppose we ascended a rocky hill above the lawn with trees, just spoken of, and photographed the mountain chain that had appeared as distant objects in our former picture. We should need some foreground, of course, and could soon make it up out of the rocks and trees on the brow of the hill, with the addition of, perhaps, a figure or two. Desiring to obtain the distant mountains as large in size on the plate as possible, we put a longer focus-lens on the camera than we used on the lawn below, and find out at once that it does not possess as much depth or reach as the shorter focus one used for the previous picture. The mountain range being now the principle object, we focus upon it, and are not so particular if the large, boldly drawn foreground is a little wanting in sharpness.

The pith of what we have said, then, amounts to this: that the principal object or objects should be focussed upon, and want of fine definition dexterously thrown upon those portions of the picture that will best bear it. We are aware that all this sounds very easy and simple; so it is in actual practice, sometimes—but not always.

ELLERSLIE WALLACE.

TINTING LANTERN SLIDES.—"Eureso" writes on this subject as follows:—"As I suppose many amateurs like myself have been engaged in spoiling lantern slides in trying to tint them, a description of my method of tinting large surfaces, such as skies, may not be out of place. If I wish to color, say, the sky, I first cover all the parts of the slide except the sky with some substance which repels water, but which can afterwards be entirely removed. I find india-rubber solution answers well if carefully applied. I then soak the slide in water to thoroughly soften the film, and then dip it in a solution of aniline dye of a suitable color in water. The depth of color will depend on the strength of solution and length of immersion of the slide. A graduated sky can be made by gradually dipping the slide into the solution. By this means the sky nearer the zenith gets longer immersed than the part near the horizon. The india-rubber coating can afterwards be easily removed with the finger.

—*Photography.*

THE PROFESSIONAL PHOTOGRAPHERS OF GERMANY AND THEIR METHODS OF DEVELOPMENT.

EARLY in the present year the publishers of *Liesegang's Photgraphisches Archiv* in Dusseldorf, Germany, prepared a circular to be sent to the most celebrated professional photographers within the German realm, for the purpose of thoroughly settling the question as to what special developer, formulated for gelatin dry plates, was in most general use with professional artists who make portraiture their specialty, further asking information how their special formula works in every day practice. As a test whether the scheme would meet with a favorable reception, and bring forth free responses, it was concluded to send out at first but half a hundred of these circulars as a feeler. To the surprise of the projectors of the scheme, twenty-eight replies were received within a few days.

The editor of the *Archiv* prefixes the list with the explanation that they do not wish it to appear as if they believed the success of photographic portraiture to depend solely upon the composition of the developer. We reproduce the list entire for the benefit of our readers, both amateur and professional, that they may gather such facts and hints as have proved of value in the practice and experience of the most successful artists in the far-off Fatherland.

The circular contained the following four leading questions, viz :

1. What developer do you use in your portrait studio ?
2. What special properties or qualifications do you claim for your developer ?
3. Give combination of solutions used in cases of normal exposure ?
4. Do you use a preliminary bath (Vorbad), and what of ?

HERR VON AYX, Mainz.

Developer.—Eikonogen.

Properties.—The brilliant action on the half-tones and high-lights during reduction, with proper manipulation.

Composition :

No. I.

Sulphite soda	200 g.
Aqua dest.	3000 g.
Eikonogen	50 g.

First pulverize the sulphite, then dissolve in the water, to this solution add the Eikonogen in crystals, place the whole in a water bath until the latter is wholly dissolved.

No. II.

Carb. soda	150 g.
Aqua destil	1000 g.

For use, 3 parts, No. I.—2 parts, No. II. Vorbad, none.

CARL BORNTRÄGER, Hofphotograph Wiesbaden.

Developer.—Eikonogen.

Properties.—It permits of a shorter exposure than any other developer known to me ; works out fine detail, neither monotone nor too hard, with great rapidity.

Composition:

A.

Aqua dest	1500 c.cm.
Sulphite soda, C. P.	100 g.
Eikenogen,	50 g.

Dissolve the sulphite and eikonogen in hot water. Keep this solution in a dark bottle with ground-glass stopper, in dark closet away from all contact with ammonia or acids.

B.

Aqua dest	500 c.cm.
Carbonate potassium ,C.'P.	75 g.

For use, three parts A to one part B immediately before using. When plates are developed far enough wash well under tap, then place in 5 per cent. alum bath for one minute, again wash thoroughly and fix in bath.

Aqua	800 c.cm.
Hypo	200 g.
Bi Carbonate soda, C. P.	40 g.

Vorbad.—None.

HEINRICH FRITZ, Hofphotograph-Greiz.

Developer.—Eikonogen.

Properties.—Advantages over the oxalate developer formerly in exclusive use: 1. Shortening time of exposure by one-half, so that slower and better plates can be used. 2. Use of developer until exhausted, therefore much cheaper and convenient.

Composition:

Sulphite soda	100 g.
Carbonate potassium	40 g.
Eikonogen	20 g.

to which is added a few drops of hypo 1 ; 50.

(Note in the original the volume of water is not given.)

By addition of water and bromide potassium over-exposed plates may be easily corrected.

Vorbad.—Unnecessary with above developer.

ARNO KERSTEN, Hofphotograph, Altenburg 1 S.

Developer.—At present only Eikonogen (since six months), prior to that oxalate and iron exclusively.

Properties.—The local water supply is strongly impregnated with limestone, and great difficulty was experienced in cleaning the hands and utensils while iron was used; therefore eikonogen is now exclusively used. In addition, I value the rapidity of development, the softness and clearness of the shadows, in spite of which they still have enough strength. I use my own dry plates made after Obernetter's modified formula.

Composition.—I rub 12 g. eikonogen crystals to powder in a small wedgewood mortar; pour this into a funnel; after closing the opening with cotton, I then add 50 g. pulverized sulphite of soda, then fill the funnel with 750 c. cm. dest. water; stir with glass rod until filtered. To this add 8–10 c. cm., concentrated solution bisulphite soda, at 38° R., which almost destroys the color of the filtered solution.

Then pour 38 g. calcined soda c. p. in the same funnel with 250 c. cm. dest. water filter when dissolved; then pour both solution together and shake well. Thus I make 1 Liter of developer in 15 minutes with out using boiling water.

Vorbad.—Not necessary in normal cases; when necessary, take 1 part hypo to 3–10,000 parts water; soak the plate a minute, then develop without washing.

Fixing Bath.—1 part hypo to 5 parts water; to 3 liter of this solution add 50 c. cm., concentrated solution bi-sulphite soda.

JULIUS SCHAAR, Dusseldorf.

Developer.—Eikonogen.

Properties.—Quick and strong action; the negative being very soft yet strong, without having to resort to intensification, with attentive manipulation the picture appears in 3 to 4 minutes beautifully modulated.

Composition.

A.

Aqua dest.	1 liter.
Sulphite soda	10 g.
Eikonogen	10 g.

B.

Carbonate potassium	150 g.
Aqua dest.	1 liter.
Hypo	½ g.

take equal parts.

L. SPRINGER, Hirshberg in Schlesien.

Developer.—During the past six months Eikonogen, with great advantage, in place, of all others.

Properties.—Magnificent, clear, yet strong negatives, when developed until the deepest shadows show through; results, not to be obtained with any other developer.

Composition:

A.

Sulphite soda	200 g.
Aqua destie	3000 g.
Eikonogen	50 g.

B.

Carbonate soda (chr.)	150 g.
Aqua destis	1000 g.

For use: A, 1 part; B, 2 parts. Fixing bath:

Hypo.	250 g.
Sulphite soda	50 g.
Water	1000 g.
Sulphuric acid	8-10 g.

In developing a plate, old developer is first used until the image appears, this is then poured off and completed with fresh developer until the negative is very strong, as the negative is apt to reduce in the fixing bath.

In copying poor photographs the oxalate developer is used, as the eikonogen brings out the grain of the paper in too great relief. This fact in itself is a proof that greater results are obtained with eikonogen than any other developer.

I. H. VOIGHT, Hofphotograph Homburg, v.d. Höhe.

Developer.—Eikonogen for negatives as well as contact prints and enlargements on chlor. and bromide paper.

Properties.—The image appears rapidly, and develops gradually until the required density is reached, when it may be immediately checked. If proper attention is paid to the work, neither intensification nor reduction is necessary with my developer. A clear picture is obtained, perfect in all detail.

Water	500 g.
Sulphite soda	25 g.
Carbonate potassa	5 g.
" of soda	15 g.
Eikonogen	5 g.

Eikonogen must be pulverized in a mortar to thoroughly dissolve.

P. BARTH, in Elberfeld.

Developer.—Iron oxalate.

Properties.—Simplicity, greater capabilities of development, especially in the case where a large number of plates are to be developed consecutively.

Composition.—Saturated solution. Just so much iron is to be added to the oxalate as the latter will stand without becoming turpid. I wish to mention it is, on the whole, immaterial what developer is used. The whole difficulty in portrait photography consists in properly lighting the subject.

EMIL BECHER DILLENBURG.

Developer.—Iron Oxalate.

Properties.—With this developer I always obtain the same results. It is easy and simple in its manipulation, and gives negatives, such as are only obtained with hydroquinone or eikonogen, under extraordinary favorable circumstances. It also allows (in my experience) shorter exposure.

Composition.—Sulphate of iron and oxalate of potash are dissolved in distilled water. For cabinet plates I take 12 g. iron to 40 g. oxalate, by normal exposure. When the light was weak, increase the volume of developer one-half. In over-exposure, reduce the volume of developer and add water. The chemicals must be pure.

[Note.—I prepare my own dry plates.]

A. BLANKHORN, Hofphotograph Offenbach a. m.

Developer.—Iron Oxalate. (Tried, Hydrochinon, plates fogged, time too long, preparation too complicated, also too dear).

Properties.—Simplicity of manipulation, absolute safety, and cheapness.

Composition:

A.

Sulphate of iron	1 part.
Distilled water	3 parts.

B.

Oxalate of potash	1 part.
Distilled water	3½ parts.

Dissolve warm. Just before using, mix 1 part A to 2 parts B. For underexposure add 1 drop soda (to -15-45 solution) when partly developed. In case of overexposure 2-3 drops bromide potassium.

Vorbad.—For short exposures 1-2 minutes in hypobath, 1-1000 for instantaneous pictures of children invaluable.

CATHARINA CULIE, Frankfurt a. M.

Developer.—Iron oxalate.

Advantages.—For portraiture, when the artist has complete control of the lighting and exposure, I consider a developer which always works evenly as the most desirable—and that one is the iron oxalate. I have not been able to obtain equal results as to detail or lights with any other developer. It is also cleanly, and its use is not harmful to the skin.

Composition.=Iron, 1-3; oxal. pot., 1-4.

Developer.--1-4.

Vorbad.—Always 30″—1-2000.

R. FATH, HALBERSTADT.

Developer.—Ferrous oxalate.

Advantages.—In comparison with all other developers, quicker action, with greater modulation.

Composition.—1-3.

Vorbad.—Negatives of children and copies—a bath of soda.

F. W. GELDMACHER, Frankfurt, a. M.

Developer.—Oxalate of potash and iron.

Advantages.—That I rarely lose a plate by over or under exposure, a property which I cannot reach with any other developer.

Composition.—Potash, 1-3½; iron, 1-3; hereof 3 parts potash, 1 part iron dissolved in hot water.

Vorbad.—Water, 1 liter; hypo., piece as large as a pea, soak 1 min.; fix without washing.

PROF. E. HANFSTAENGLE, Frankfurt, a. M.

Developer.—Exclusively oxalate.

Advantages.—Absolute freedom from fog.

Composition:

A.

Oxalate of potash	1 kg.
Water	4 kg.

B.

Sulphate of Iron	½ kg.
Water	1½ kg.

For use, 1 part iron to 3 parts oxalate.

Vorbad.—Hypo for child exposure only, dissolve 1½ g. hypo in water 20 c.cm; of this solution take 1½ c.cm to 500 c.cm water.

FR. KAHLMEYER, in Osnabrück.

Developer.—Ferrous Oxalate.

Advantages.—Simplicity, cheapness, cleanliness.

Composition.—(A) 1000 V; (B) 250 g. Neutraloxalate potash crystals; 3 parts A, 1 part B.

Vorbad.—For short exposures add to developer 10 g., hypo solution 1:200.

N. LEYENDECKER, in Berncastel.

Developer.—Iron oxalate.

Vorbad.—None.

FR. E. MARR, ZWEIBRÜCKEN.

Developer.—Ferrous Oxalate.

Advantages.—Any desired intensity and fine gradations can be attained.

Composition.—Both solutions are made 1 : 4, and for use mixed 1 : 4. (I only use extra heavy plates.)

Vorbad.—Plates receive ample exposure, and developed with much bromide, also when hypo vorbad was used.

PETER RISSE in Duisburg.

Developer.—Ferrous Oxalate.

Advantages.—Surety.

Composition.—Both solutions saturated. Iron added according to circumstances, relative to lighting, exposure and plate.

Vorbad.—Only occasionally, and then 1 part hypo, 2000 water.

ARNOLD OVERBECK in Düsseldorf.

Developer.—Iron and Oxalate of Potash.

Advantages.—Simplicity and great latitude

Composition.—1 Iron, 3 Oxalate.

Vorbad.—With short exposures, hypo 1 : 5000.

A. STERNITZKI, BRAUNSCHWEIG.

Developer.—In general oxalate, with short exposures (children) hydrochinon. I miss, however, here the important question, "What plates?" As in my experience the various developers do not act the same with all makes of plates; for instance with English and some German plates, I should decidedly prefer pyrogalliol, while in the portraiture of children with the "Schleussner" plates I would use hydrochinon.

Advantages.—Oxalate gives with Monckhoven plates, which I mainly use, a clear picture with fine detail and clean plates; but even here it depends on the different emulsions, and often to obtain suitable negatives I resort to hydrochinon.

Composition.—Oxalate both solutions, saturated and used in proportions of 1-3 to 1-4. Hydrochinon and pyrogalliol according to the usual formula.

Vorbad.—Only unwillingly; I would much rather add a little hypo to the developer.

CARL BELLACH, Leipzig.

Developer.—Hydrochinon; also a mixture of hydrochinon and eikonogen.

Advantages.—More rapid appearance of image and completion of development with nice contrasts. Eikonogen alone works to monotone, and requires too much time for intensification. For very short exposures, eikonogen answers to start the development; hydrochinon to complete the reduction.

Composition:

Hydrochinon No. 1.

Water	2000
Sulphite soda	180
Hydrochinon	30
Carbonate of potash	180–200

for under exposures, warm developer to 50° R.

Hydrochinon No. 2.

Water	1000
Sulphite soda	90
Carbonate potash	120–150
Hydrochinon	1

for extra short exposures, children, etc.

Commence development with No. 2; after detail is out finish with No. 1.

EIKONOGEN.

Water	1000
Sulphite soda	90
Carb. potash	40
Carb. soda	10
Eikonogen	20

A developer composed of hydrochinon and eikonogen as above will be found advantageous in certain cases.

Vorbad.—Never.

THEODORE KLAUER, in Offenbach a. M.

Developer.—Hydrochinon.

Advantages.—Softness of shadows, with relative short exposure.

Composition:

A.

Water	500
Sulphite soda	70
Hydrochinon	10

B.

Water	400
Soda	50

For use, 3 parts No. 1; 4 parts No 2.

Vorbad:

Sulphite soda	50
Water	1000
Hypo	2

C. HERTEL, Hofphotograph in Mainz.

Developer.—Pyro-soda.

Advantages.—1. Clean work. 2. Great latitude of exposure. 3. Black tone.

Composition:

A.

Solution sulphite soda	1-10
Pyrogallus acid	1-5 per cent.

B.

Solution of soda . . . . . 5-10 per cent.

Equal parts A and B.

Vorbad:

ANSELM SCHMITZ, Königl. Hof. Photograph, Koln.

Developer.—The Sulfo-Pyrogall-Developer.

Advantage.—The developer furnishes brilliant negatives of superior detail.

Composition:

A.

Water	64
Sulphite soda	16
Citric acid	1
Pyrogall	1

B.

Water	64
Sulphite soda	8
Carbonate of soda	32

Developer.—Equal parts A and B, diluted with 20 parts water. Equal results have been attained with other formulæ; the advantages which I claim are not the result of this formula in particular, but of pyrogalliol in general. I have tested all other developers, as they appeared, among others the much vaunted eikonogen, but soon came to the conviction that pyro. is far superior. For short and instantaneous exposures, eikonogen in its various combinations has been presistently praised, as it was claimed that greater results and detail were to be obtained with the new agent than any other. I have, however, obtained results far, far greater with pyrogalliol, as I show from the enclosed prints.

Vorbad.—None.

A. STOCK, Hof. Photograph, Guben.

Developer.—Pyrogall.

Advantages.—Very rapid development, complete in three minutes; at the same time vigorous results. In a few minutes every grade of strength can be attained.

Composition:

A.

Pyrogallol	15 g.
Sulphite soda	30 g.
Water	500 g.

B.

Pure soda	100 g.
Water	1000 g.

For use, equal parts A and B, diluted with one-third water with several drops bromide. For underexposed plates use with bromide or water.

It will be seen by the above responses that one-half of the whole number still adhere to the favorite German stand-by—ferrous oxalate,—their main reasons given being the simplicity, uniformity of action, cheapness, cleanliness, and freedom from fog. Seven of the whole number have become converts to the new candidate for photographic favor—viz., eikonogen,—on account of the quicker action, allowing of shorter exposure, together with finer grain and detail; the factor of price is also an object in its favor.

Three are equally enthusiastic in their praise of pyro., which we in this country can agree to. One is a convert to hydrochinone, while another promulgates the questionable formula of mixing hydrochinone and eikonogen. It will be noticed that ten photographers only approve of an occasional preliminary bath (vorbad).

We are in receipt of advance sheets of twenty-four additional replies, which we expect to present to our readers in the coming month.

The attention of both professionals and amateurs is called to the fact that above all relate to the department of studio portraiture only.

JULIUS F. SACHSE.

PALLADIUM TONING.

PALLADIUM was discovered by Wollaston in the ore of platinum. The metal has but little affinity for oxygen, undergoing no change in the open air. It is dissolved by nitric acid and by aqua-regia; other acids have but little action on it. The oxide PdO, palladous oxide, is the base of the ordinary salts of the metal. The salt which may prove useful in the printing processes of photography is palladous chloride, $PdCl_2$. It is prepared by acting on palladium with aqua-regia, and evaporating; the brown hydrated crystals, when heated to redness, lose chlorine, leaving metallic palladium, resembling platinum in this respect as well as in the formation of double salts with the alkaline metals.

Nothing can be simpler than the process of palladium "toning." A silver print is first obtained on plain salted paper. This is washed, preferably in water containing a little common salt, after which it is again brushed over with a solution of palladous chloride, containing a drop or two of dilute nitric acid. A change almost immediately ensues, palladium taking the place of silver.

To insure success in the production of palladium prints, nothing is required but to print deeply and wash thoroughly, to use a very dilute and slightly acid solution of the palladous salt, and fix in "hypo," containing just enough ammonia to smell of it, giving each batch of prints a new bath. The finished print has somewhat the appearance of a drawing in India ink, especially if done on Whatman's paper. Palladium is a rare metal; its price is quoted in a list I have by me at 25s. per drachm, while the solution of palladous chloride is 35s. per ounce. But considering the minute quantity used in the production of a photographic print, the price perhaps is of little consequence. I am aware that the method of procedure is not new, but the use of palladium in "toning" is, I believe, a novelty.—FRANK P. PERKINS, F.I.C., in *Photography*.

HE KNEW HIS BOY.—Father (to Photo. artist): "I would like you to give my son a chance in your studio."

Photo. Artist: "What can the lad do?"

Father: "Well, at first he couldn't do any thing more than take charge of all the operating, retouching, and oversee the printing department, but later on when he has more experience he will be right handy to do the sweeping, clean the windows and sift the ashes."

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

A SPECIAL MEETING.

A SPECIAL meeting of the Society was held on Tuesday afternoon, April 1st, 1890, with Vice-President John G. Bullock in the chair.

The Chairman announced to the Society the sudden death of their President, Mr. Frederic Graff, which occurred on Sunday morning, March 30th.

After the reading of the formal call for the meeting by the Secretary, remarks were made by a number of members, expressive of their strong affection and high admiration for their late presiding officer, and deepest grief at his loss. His kindly spirit towards all with whom he came in contact, his painstaking care and energy in all work falling to his share, his great interest in photography, and particularly in this Society, whose growth he had watched and fostered from its infancy, were dwelt upon. Among those who spoke were Messrs. John G. Bullock, John C. Browne, Francis T. Fassett, W. H. Walmsley, R. T. Hazzard, Edmund Stirling, Francis Burrows, Evan Ellis, and Dr. Charles L. Mitchell. Letters of condolence were also received from Messrs. W. D. H. Wilson, R. W. Kear, and Charles R. Pancoast.

On motion of Mr. Stirling a committee was appointed by the Chair to draft a suitable minute in regard to the death of Mr. Graff for publication in the daily papers, to report at the stated meeting on 2d instant, and also to prepare a more formal memorial to be published by the Society at a later date. The meeting then adjourned.

At the regular meeting held on April 2d, 1890, the following minute, prepared in accordance with the action at the special meeting, was adopted and ordered to be published, after which, out of respect to the the memory of their deceased President, the Society adjourned.

"The members of the Photographic Society of Philadelphia desire to testify to their sense of the great loss they have sustained in the death of their President, Frederic Graff. They feel that by his death not only have they lost a most efficient presiding officer, but that each one has been bereft of a dear friend, a sage counselor, and one who gave of his very best to promote the interests and well-being of the association.

For nearly thirty years his official connection with the Society has been continuous—as Chairman of the meeting called to organize the same, then as Vice-President, and serving two terms as President. He may indeed be called its Father. To his untiring zeal for its welfare the Society is in a great measure indebted for the present high position it holds in the photographic world.

(Signed) JOHN G. BULLOCK, *Vice-President.*
April 2d, 1890. ROBERT S. REDFIELD, *Secretary.*

AN ADJOURNED STATED MEETING.

AN adjourned stated meeting of the Society was held Wednesday evening, April 9th, 1890, with Vice-President John G. Bullock in the chair.

Communications were read by the Secretary from the New Orleans Camera Club, inviting members to be present at the opening of their new rooms on April

16th, and from the editor of the *Photographic Times*, presenting a copy of "Practical Photo-micrography," by Andrew Pringle, for both of which votes of thanks were passed.

The Secretary also reported that owing to the removal of the Society of Amateur Photographers of New York to new quarters, which would fully engross the attention of both officers and members for some months, they desired to postpone holding Joint Exhibition until sometime in the autumn. The Joint Exhibition Council, however, had decided that for various reasons a fall exhibition was not advisable, and it had therefore been agreed to postpone the exhibition until the spring of 1891.

The Committee on Lantern Slides presented a full report in regard to the public exhibition of slides, illustrative of the work of members, which had been held at Association Hall on the evening of March 12th. The exhibit was one of the best ever made by the Society, and furnished unmistakable evidence of a general improvement in technical and artistic photography on the part of the members. The attendance was large, and the display was evidently a source of pleasure and satisfaction to all who saw it. One hundred and eighty-three slides were selected by the Committee for exhibition, representing the work of fifty-three members. Mr. Frank Bement kindly loaned his dissolving lanterns and exhibited the slides, and Dr. Charles L. Mitchell acted as spokesman of the Society, welcoming the audience and announcing and explaining the views as they appeared on the screen.

The Committee on Membership reported the election of the following active members: Erwin Agnew, M.D., Jerome B. Craven, and George Howard Perkins.

Mr. Browne, referring to the loss the Society had sustained in the death of their President, Mr. Frederic Graff, said it had seemed to certain of the members desirable that the position of President should be filled at once. In the minds of some it was an open question whether by virtue of the death of the President the Senior Vice-President did not become President. It was desirable to remove all uncertainty in regard to the question, and he therefore nominated Mr. John G. Bullock for the office of President. The nomination being seconded by Mr. F. T. Fassitt, Mr. Bullock was unanimously elected President.

Dr. Mitchell, of the Executive Committee, read a communication which had been handed to him by the author, Mr. Frank H. Rosengarten, entitled, "Working Department of the Photographic Society of Philadelphia." The paper was a lengthy plea for enlarging the scope and usefulness of the Society, giving a history of previous efforts which had been made in this direction, and accompanied by circulars and other data illustrative of the workings of the Camera Club of London.

Considerable discussion followed the communication, during which Mr. Browne called attention to the fact that before the end of the year the Society would have to consider the important question of a change of quarters, and also the undesirability of discussing important matters of this kind in open meeting. He thought a special committee might be appointed to consider all propositions made to it, and in this way relieve the Society from a great deal of discussion.

Dr. Mitchell moved that the Chair appoint a special committee, to consist of the President, Vice-President, Secretary, and Treasurer, and six other members, to consider and report to the Society the advisability of procuring other and more convenient quarters, and the institution and development of a suitable working department for the instruction and improvement of members in photographic work.

Carried.

On motion of Dr. Mitchell it was also resolved that a special committee of three be appointed by the Chair to make such revision of the By-Laws of the Society as may be needed, and to report at the regular meeting to be held on October 1st, 1890.

Mr. Carbutt, alluding to a letter he had read at a previous meeting, from Mr. Pancoast, in regard to keeping qualities of plates, showed a negative sent him by the same gentleman, made recently on a Carbutt A Plate which had been coated about 1884 or 1885. The negative showed no signs of deterioration on account of age of the plate.

Mr. Browne, referring to the appointment of a commmittee to ascertain the cause of certain deterioration in lantern slides, said that within the last two weeks he had examined a large number of slides with a table microscope having a two-inch objective. With a glass of this power, he noticed that in a good many cases the crystallization or cloudiness is formed on the cover glass, but not invariably so. It has been said that a great deal of this difficulty arises from the quality or composition of the glass—that from the thin glass now used both for picture and cover emanates some chemical injurious to the slide. This might be so, but in his experience, which had been almost entirely with the quality known as "B. P. C.," he could not lay this fault to the glass. In examining the slides he found a great deal of matter evidently deposited from impure washing water, which seemed to consist of particles of vegetable matter, mud and sediment of various kinds which had not been perfectly washed off. He also thought that the central spots from which the crystallization started were sometimes due to hyposulphite of soda in the gelatine film. Years ago, having trouble of this kind, he had commenced using diluted cyanide of potassium instead of hypo. for fixing slides. Slides so fixed did not show any of the faults in question. A great deal of the trouble, he thought, arose from intensification. The purchasers of commercially-prepared slides demand very dense positives, which makes it desirable to use some form of intensification. Among the chemicals used for this purpose is sulphide of potassium, which to his mind is most objectionable. He had found the treatment with bichloride of mercury, followed by a bath of bichloride of platinum, to make a permanent and safe intensifier.

Mr. Fassitt had found the treatment with mercury invariably fatal to a gelatine slide.

Dr. Wallace thought the question of fading depended not so much on the use of mercury as upon what the mercury was followed by. If ammonia was used, the result would be disastrous; but with cyanide of silver the picture would not fade.

Mr. Carbutt, referring to the use of cyanide of potassium for fixing gelatine slides, said it could be used if a perfectly pure article was obtained. The ordinary commercial cyanide contained caustic potash, which had a deleterious effect on the film. He recommended a solution of eight or ten grains to the ounce as suitable for fixing an ordinary gelatine plate with safety

Mr. Rosengarten said that most of the hypo. used contained large quantities of foreign matter and impurities. In his own practice he used only the pure article.

Mr. Bell endorsed the remarks of Dr. Wallace relative to the use of mercury. It was not the mercury itself, but what followed it. If followed with bromide of potassium, it was perfectly permanent; if with sulphide of soda, the same as ammonia. If with cyanide of silver, it is perfectly permanent.

Mr. Carbutt claimed that there was no need of intensifying lantern slides. He had been making some positives requiring great density; it was simply done with pyro, soda and bromide.

The action of the alkali should be well restrained, and the exposure as full as subject and conditions will allow.

In the instance referred to, it was nearly a minute before the image began to show. It was a positive made by contact. For the purposes of those using his process plates, the developer consisted of: Water, 60 ounces; carbonate of soda crystals, 2 ounces; sulphide of soda crystals, 4 ounces; bromide of soda or potash, 60 grains. To each ounce of the above, 2½ to 3 grains of dry pyro is added. By this means perfectly clear glass in the transparent parts of the negative, and very dense blacks can readily be obtained.

Dr. Mitchell showed an 8 x 10 Irving Camera, recently introduced by the Scovill & Adams Company. The weight of camera alone is but six pounds, and with plate-holder and carrying case, but nine pounds. It has no sliding front, but when pointing the camera above or below the horizonal line, the swinging front as well as the swing back are brought to a perpendicular, thus doing away with any necessity for a sliding front of the usual form. The focusing is effected by a rack work, operated by a pinion set horizontally on base board of camera. By this arrangement, when camera is closed, all projecting screws, brass work, etc., are avoided. The 8 x 10 size extends about eighteen inches.

The meeting closed with the exhibition of one of Moessard's Panoramic Cameras, recently imported and sent by Mr. Frederic Gutekunst.

Adjourned. ROBERT S. REDFIELD, *Secretary.*

THE CAMERA IN COURT.

IN addition to the manifold uses of the camera, photography has lately been called into requisition in civil law-suits. We have received from Mr. C. H. Miller, the official photographer of the Philadelphia & Reading R. R. Co., an account of two law-suits for damages which were gained by the company by means of his photographs of the spot where the accidents occurred—silently but surely contradicting the evidence of witnesses on the other side. In the first case, the claimants deposed that there was not room enough at the station to turn a carriage without the danger of going over an embankment; however, on the production of a photograph of the location, the Judge charged "that the photograph showed the top of the plateau to be wide enough to drive around without any danger of the horse going over the bank, therefore there was no reason why suit should be brought against the railroad, as it was plainly shown that they were in no way responsible."

The other case was even more curious. Two men were killed at a road crossing. Suit was brought, and witnesses were produced on the trial who testified that there was a bank at least ten feet high, which prevented the tracks and approaching trains from being seen. After their side of the case was closed, photographs were produced by the defence showing that the bank was not quite three feet high, and that the tracks were visible for over two miles to persons walking in either direction, and further to persons in a wagon, which was the case with the men who were killed. As soon as the Judge saw the photograph, which showed the bank and also at least two miles of tracks, he declared that the railroad was in no way responsible for the accident. Non-suits were entered in both cases.

GENERAL NOTES.

IT is a significant fact that up to the present time there have been two hundred and seventy permits issned in New York to amateur photographers who wish to practice in Central Park. From the way that applications are coming in, it is estimated that the number this year will exceed over 2500,—over 1700 permits were issued to amateurs for the year 1889. The photography by amateurs of the lakes, walks, woods, of Central Park is of comparatively recent date, but very little in that line having been done previous to 1888. S.

GLORY awaits the first amateur photographer who will take a picture of globular lightning, a phenomenon known to occur, but of which no trustworthy evidence exists.

IN some parts of England the old dodge of setting up a camera in front of a house, pretending to photograph it, taking the money on the nail, and departing never to return, is again being tried. A short time ago two traveling photographers from Yarmouth were brought up at the Needham Market Petty Sessions upon three charges of obtaining money under false pretenses. In appears that in each case they took a portrait of the prosecuting individuals, and as no photographs were forthcoming for over a week proceedings were instituted. The prisoners were committed for trial.

A NOVEL APPLICATION OF PHOTOGRAPHY.—A graphic history of the new Library Building at Washington, D.C., is being prepared, and when it is completed it will be one of the most unique narratives of a building that has ever been written. The pencil used is the rays of the sun, and the paper is the sensitive plate of a photographic camera. Every ten days, from the top of the building occupied by Architect Felz and his force of draughtsmen, one of the employés directs a camera upon the great hole which has been dug out in the square, just east of the Capitol grounds. Every detail of the condition of the work, the height of the walls, the piles of material on hand, is accurately impressed upon the plate. Photographs are filed away, properly labeled, and can be produced if any question arises as to what was done or what was not done at any stage of the work. If, for instance, a contractor asserts that he had a certain material on the ground at a certain date, he can be confronted with a photograph, and asked to point out where the material was deposited. The photographs are not taken for this purpose exclusively. They are found to be a valuable supplement to the written records kept by the assistants of Bernard R. Green, who is in charge of the work of construction, under the direction of Colonel Casey. This is rather a novel use for the photographic camera, and the photographs taken will be of great interest in years to come.—*Village* (*W. C.*) *Record.*

CAUSE AND EFFECT.—Miss Antique (displeased with her photographs)—"This is the fourth sitting I have given you, and the picture is even worse than the first."

Photographer—"Yes, miss; the last sitting was a month after the first, and you were a month older, you know."—*Keystone.*

IN commercial photo-engraving, zinc etching, and the gelatine relief process, it is absolutely necessary that the exposure be properly timed, the period depending upon the depth of shading required. Any increase in the duration of the exposure will cause what is termed an "overprint," which is not satisfactory, as the finer lines of the original are not produced. An electric alarm has now been devised, which gives warning by the ringing of a bell of the proper exposure, so that the operator is free to attend to other duties without fear of neglect or over-exposure of the plate.

—*Exchange.*

THE latest photographic curiosity is the rhombohedral camera of Professor Cohn, of Breslau, by which a picture can be taken while the eye is regarding it in the glass screen. This is effected in the following way: Two rhombohedra of glass are placed in a special chamber just behind the camera lens, by which means two images are thrown upon the upper and lower halves respectively of the ground glass screen, the eye looking along a path between the two rhombohedra. To use the instrument a sensitive plate is put in place of the upper half of the ground glass. When a sharply defined image has been obtained upon the lower glass, an instantaneous shutter is released in the interior of the camera in front of the upper rhombohedron, and the picture is obtained on the sensitive plate.—*Photo. News* (*London*).

THE publishers of *Varnish*, a monthly journal issued at 1713 Broadway, New York, devoted to the carriage painting and varnish interests, presented their subscribers for the current year with a prize picture 18x28 inches, printed in oil colors by Armstrong & Co., of the Riverside Press, Cambridge, Mass. It is a fac-simile of an oil painting by Winslow Hosmer, known as "The Army Teamsters," and does credit to all parties. To us the picture recalls years gone by, and once more brings up vividly to our memory visions of the past, when the roll of the drum and note of the bugle were heard throughout the land. The intelligent contraband—the ever tired teamster—the musical bray of the "team"—are all once more before us. Thanks for your courtesy towards us, Brother *Varnish*. We wish you all the success you deserve.

ED.

FIXING WITH MAGNESIUM CHLORIDE.—Magnesium chloride ($Mg\ Cl_2$), which, as the older operators will remember, served as a useful addition to the collodion, by which the vigor of the negative was increased, and the solarization of the sky prevented, has of late been tried by Herr R. E. Liesegang as a fixing agent for gelatino-chloride paper. This experimenter found that prints on this paper were completely fixed if treated with a diluted solution of this salt, and that they were not at all reduced in vigor, as is the case with hypo, ammonia, and sulphocyanide of ammonia. The fixed prints keep well; but as the gelatine of the film is slightly attacked by the salt, it is advisable to add a small quantity of alum to the bath. "Perhaps," says the author, "the magnesium chloride, on account of these properties, can be used for fixing photographs in natural colors."—*Archiv.*

THE wife of a well-known official in this city was heard to say, apropos of art: "My husband is fond of ile paintings, but I prefer itchings."

Brown—"Does your wife keep her temper very well?" *Jones*—"Um—um—er—some; but I get most of it."—*Ex.*

A BUSINESS CHANGE.—On Friday the partnership existing between B. C. Pentz and W. H. Swords, under the firm name of Pentz, photographer, was dissolved by mutual consent. Mr. Pentz having disposed of his interest in the photographic business to W. H. and George A. Swords, they still continue the business at the old stand, under the name of Swords Brothers.

REPORT of the Secretary of Photographic Society of India: An honorable commend for a series of landscapes was awarded to Charles E. Pancoast; also the society's silver medal to Robert S. Redfield, on the following, viz.: "Victuals and Drink," "Feeding Chickens," "At the Forge," See Saw," and "Patience." Both of the above-named gentiemen are members of the Photographic Society of Phila.

ED.

IN connection with our article in the March JOURNAL on "Tree Study," we would call the attention of our readers to two photogravures in the current number of *Sun and Shade*,—one a "Tree Study in Winter," the other "Far from the Madding Crowd. Especial attention is called to the exposed ramifications of the root growth in these giants of the forest, as shown in the latter plate. ED.

THOSE of the trade who act upon the wise principle of keeping their wares constantly under the notice of the increasing army of photographers, will naturally reap the benefit of their judicious enterprise.

DR. JOSEPH C. EGBERT, an enthusiasiastic and successful amateur photographer of the new suburban town of Wayne, in Delaware county, sends us several specimens of his photographic handiwork. One, an interior of the parish building of St. Mary's P. E. Church at Wayne, on the day of dedication, is especially good,—we may say perfect, and will no doubt be highly prized by such of the parishioners as were present on the occasion, and who may be fortunate enough to obtain one of the prints.

ED.

WE have just received word that the proprietors of the Hotel at Arrowhead Springs, San Bernardino, California, have provided a first-class dark room for the use of their guests.

DEVELOPERS FOR FLASHLIGHT NEGATIVES.—We learn from the *Wochenblatt* that Professor Eder, in his new book, "Photography by Magnesium Light," recommends the following developers for flash-light pictures:

1.—PYRO DEVELOPER.

A.—Sodium sulphite	100 grammes.
Pyro	14 "
Water	500 c.c.
Concentrated sulphuric acid	6 drops.
B.—Cryst. soda	50 grammes.
Water	500 c.c.

Just before use, not sooner, 20 c.c. of solution A and 20 c.c. of solution B are mixed with 20 c.c. of water.

2.—HYDROQUINONE DEVELOPER.

A.—Hydroquinone	10 grammes.
Sodium sulphite	40 "
Water	400 c.c.
B.—Potassium carbonate	20 grammes.
Water	20 "

Before development 20 c.c. of solution A are mixed with 20 c.c. of solution B. This developer can be used repeatedly, and it is recommended to add a small quantity of fresh developer, but not before the development has been nearly finished.

The Photographic News, March 14, 1890, presents an exhaustive article on Athanasius Kirchner and his discovery of the magic lantern. It is by the pen of Mr. James Mew, and is well worthy of a perusal by all photographic students. We are pleased to see the renewed interest taken in those long-forgotten pioneers in the field of optical science. At the same time we cannot refrain from calling attention to the fact that the AMERICAN JOURNAL OF PHOTOGRAPHY first photographically called attention to the discoveries and researches of Porta and Kirchner, and the debt which the photographic world owed to them for their discoveries. The matter will be found fully illustrated in the JOURNAL for October, 1889, under the head of "The Genesis of the Camera." The article was partially reprinted, with comments, in *Bolas' Review*.

BY one of those unaccountable metaphysical anomalies occasionally met with in this life, our esteemed brother of the paste and shears, in the March *Beacon*, reviews the Gutekunst Souvenir in almost the same words as we did in the February JOURNAL. If it were not for the motto at the head of his "editorial table," we should be inclined to think that it was not a mere case of similarity of thought of two persons a thousand miles apart, but that it was our own article worked over and used without giving the credit due the JOURNAL, wherein it first appeared. We ourselves know a good thing when we see it, and occasionally cull one out of the valued exchange in question; but we always try to give credit where it is due, even if we elaborate or change some of the phraseology.

LITERARY AND BUSINESS NOTES.

OUR esteemed exchange from Amsterdam, the *Tijdschrift voor Photographie*, published by the "Helios" Association, now enters into the eighteenth year of its publication. We wish it continued success and prosperity. The current number, beside the proceedings of the local photographic society, a translation from the AMERICAN JOURNAL, and numerous photographic formulæ, contains, under the head of "Oorspronkelijke Medeelingen," an interesting contribution from C. H. Groote, in which he gives his method of transferring the gelatin film of an ordinary dry plate negative to a new plate. The illustration accompanying this number is exceedingly praiseworthy in execution and detail.

From the same country comes a new candidate for the favor of the photographic public, viz.: "Lux," "Tijdschrift tot bevordering der fotografie en aanverwante kunsten en wetenschappen." A fine portrait study accompanies the "Tijdschrift." The leading paper, an article on "Amateur en Professional," by "Philophoto," classifies the guild as follows, viz.:

Typus: Animalia Vertebrata.
Classa: Mammalia. Ordo: Bimana.
Genus: Homo. Species: Fotograficus.
Varietas I., Amateur. Varietas II., Professional.

This interesting contribution to Photographic literature must be read in the original to be duly appreciated. J. F. S.

TRAITÉ ENCYCLOPÉDIQUE DE PHOTOGRAPHIE, par Charles Fabre. Gauthier-Villars et Fils, Paris. Parts 6-8. The second volume of this work begins with a description of the laboratory processes employed in preparing the plate for the camera. The wet process is considered in minute detail, with the effects produced by variations in the constitution of the sensitizing baths and the developing solutions. Methods for the intensification and reduction of unsatisfactory negatives are described, and various formulæ for the preparation of varnishes are given.

A short chapter is devoted to the use of the wet collodion process in the field, and the processes that have been suggested and actually employed for preserving the sensibility of the wet collodion film. Chapter III. takes up the history of the dry collodion process, titles of articles being the resin process, bromo-collodion, albumenized collodion, and the tannin process. Full references are given in every case, and each chapter is followed by a bibliography of the subject. DR. GREEN.

AN exhaustive and well-digested article on Daguerre has lately been published in the New York *Daily Tribune*. It is by the pen of Mr. W. J. Lincoln Adams, Editor of the *Photographic Times*, and beside describing the proposed Daguerre Memorial, treats at length of how the discoverer worked out his process, the accident which led to his ultimate success, and the Daguerreotype of days gone by. The article is illustrated with two pronounced newspaper cuts of the discoverer as well as the proposed memorial.

BY courtesy of the Scovill Mfg. Co. we have received their latest publication, No. 32 of the Scoville Photographic Series, entitled "Practical Photo-Microscopy," by Andrew Pringle. The volume contains much practical information on the interesting subject indicated in the title. The information is conveyed in a clear, concise manner; all of the various departments, mechanical, optical, chemical, microscopic, and photographic, are all fully treated upon. The numerous illustrations by the phototype process of the various bacilli, spermatozoa, etc., must be seen to be appreciated. The work is a credit to the publishers as well as the writer, is well calculated to promote physiological research by photographic methods, and must prove of great value to the medical profession as well as the photographic student.

AT the meeting of the Academy of Natural Sciences on the 1st inst., at which we had the pleasure of being present, Theodore D. Rand, Esq., of Radnor, Penna., exhibited a number of mineral specimens with the oxhydrogen lantern. Specimens of mica from Jacob Swayne's quarry in Chester County, showed numerous included minerals such as magnetite, Göthite and quartz, besides some unknown crystals. Micas from Delaware County, Fairmount Park, West Philadelphia, etc., showed a variety of included crystals. One of the most brilliant specimens was of mica containing quartz from Amelia County, Va. Some of the quartz was in crystals and some in radiated masses, rotating with the rotation of the analyzer. There were also shown feldspar from Frankford, and from Mineral Hill, Delaware County, and other localtties, some enclosing minute hexagonal crystals of Göthite forming the gem "Sunstone."

Thin sections of some of the rocks around Philadelphia were exhibited, showing the various minerals of which the rocks are composed.